

Remarks/Arguments

Claims 1-39 are pending in the application. Claims 1, 15 and 27 are independent.

The Examiner has objected to the Specification because the abstract exceed 150 words. Accordingly, the Applicant has amended the abstract so that it contains only 148 words.

The Examiner has rejected claims 1, 2, 7-12, 15 and 27 under 35 U.S.C. 102(b) as being anticipated by Rosenberg (WO 99/49443). Applicant respectfully traverses the rejection.

Claim 1, as amended, recites a handheld electronic device comprising:

- a scrollwheel for providing input to the handheld electronic device;
- a dynamic feedback module connected to the scrollwheel for providing a plurality of types of feedback to a user of the handheld electronic device, the dynamic feedback module comprising:

- means for resisting rotational motion of the scrollwheel, *and*

- means for providing lateral motion of the scrollwheel;*

- the plurality of types of feedback comprising resistance to rotation of the scrollwheel *and movement of the scrollwheel in a direction toward or away from the user*, each type of feedback associated with at least one of a plurality of feedback modes; and

- a software module for selecting a feedback mode from the plurality of feedback modes and activating the associated type of feedback provided by the dynamic feedback module.

Accordingly it will be appreciated that limitation of feedback comprising resistance of rotational motion of the scrollwheel and lateral motion of the scrollwheel, has been added to the claim.

A similar limitation was found in originally filed claim 12. For this claim, the Examiner has alleged that the limitation is shown in Rosenberg (pages 15-19, lines 25-31 and page 21, lines 1-35). However, the Applicant respectfully disagrees with this assertion.

In fact, the Applicant has been unable to find any teaching of lateral motion feedback at all by Rosenberg.

However, page 15, line 25 to page 16, line 29 relates specifically to an embodiment implementing a force feedback scroll wheel (or knob) on a remote control. This embodiment describes several types of feedback. For example, force detents attract the knob to a particular rotational position and resist movement of the knob from that position. In another example, a spring force is used to resist rotational movement of the knob to simulate a spring.

Page 16, line 30 to page 17, line 3 relates specifically to an embodiment on a radio, tuner, amplifier or other electronic device. Page 17, lines 4 to 13, relates specifically to an embodiment on a gamepad controller. Neither of these embodiments teach further types of feedback and certainly none of them teach lateral motion feedback.

Page 17 on relates to the physical implementation of the mouse system described in Figure 2. No further type of feedback are disclosed.

Lastly, page 21, lines 1 to 35 relates to different mechanisms that can be used to implement the rotational feedback previously described by Rosenberg.

Accordingly, it is submitted that Rosenberg, or any of the art of record for that matter, does not include any disclosure, teaching, or suggestion of a means for providing lateral motion of a scrollwheel that provide, as tactile feedback, movement of the scrollwheel in a direction toward or away from a user. The cited art is at most directed toward structures that resist rotation of a scrollwheel or structures that permit a user to manually translate a scrollwheel with respect to a housing of a handheld electronic device. It is submitted that the structures described in the art of record bear no similarity whatsoever to structures that provide, as tactile feedback, movement of the scrollwheel in a direction toward or away from the user.

The distinction between the structures shown in the cited art and the structures disclosed and claimed in the current application are significant. As an initial matter, it is respectfully submitted that rectilinear feedback is intuitively more meaningful and understandable to a user than rotational feedback. For instance, a user generally is required to expend a relatively greater degree of attention to a handheld electronic device in order to detect rotational feedback than would be necessary to detect linear feedback. Linear patterns are generally more intuitively recognizable than rotational patterns.

This is particularly the case with tactile feedback of a scrollwheel since rotational feedback generally occurs during motion of the scrollwheel (or during attempted motion, if rotation is completely resisted). In contrast, rectilinear feedback can be perceived by a user even when a scrollwheel, for example, is not actively in motion. That is, the lateral position of a scrollwheel can be perceived by a user after movement of the scrollwheel to the lateral position. The scrollwheel need not be actively in motion for a user to perceive a lateral position of the scrollwheel.

The requirement that a user perceive rotational feedback with such clarity and in such detail during the instant when such rotational feedback is provided in order to ascertain the intended meaning of the rotational feedback inherently requires that the user expend a significant amount of attention. Since handheld electronic devices typically provide a substantial amount of information in a relatively small space, and since such information and other matters typically compete for the limited attention of a user, structures that provide meaningful information to a user while requiring little attention of the user are inherently far more advantageous than the structures which require significantly more attention of the user in order to convey the same amount of information.

As mentioned above, it is submitted that the recited means for providing lateral motion of the scrollwheel that enable, as feedback, movement of the scrollwheel in a direction

toward or away from a user provides a significant advantage over the prior art implementations.

Therefore, for at least the reasons discussed above, Applicant submits claim 1 is novel in view of Rosenberg and, as such, requests that the rejection of claim 1 be withdrawn.

Independent claims 15 and 27 are similar in scope to claim 1, and therefore a similar argument applies. Accordingly, we submit that the rejection to these claims be withdrawn for at least the same reasons.

Since the remaining dependent claims depend from one of the above noted independent claims, since we submit that the rejection of these claims be withdrawn for at least the same reasons.

For the foregoing reasons, the Applicant respectfully submits that the claimed invention is patentable over the prior art. Reconsideration and allowance of the claims is respectfully requested.

Respectfully submitted,

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